Product Data Sheet

Product Name: Valganciclovir
Cat. No.: GC37882

Chemical Properties

Cas. No.	175865-60-8		
SMILES	N[C@@H](C(C)C)C(OCC(OCN1C=NC2=C1N=C(N)NC2=O)CO)=O		
Formula	$C_{14}H_{22}N_6O_5$	M.Wt	354.36
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Valganciclovir		

Background

Valganciclovir HCl is a prodrug for ganciclovir with antiviral activity used to treat cytomegalovirus infections.

Valganciclovir hydrochloride is a hydrochloride salt of the L-valyl ester of ganciclovir that exists as a mixture of two diastereomers. [1] After administration, these diastereomers are rapidly converted to ganciclovir by hepatic and intestinal esterases. In cytomegalovirus (CMV)-infected cells, ganciclovir is initially phosphorylated to the monophosphate form by viral protein kinase, then it is further phosphorylated via cellular kinases to produce the triphosphate form. This triphosphate form is slowly metabolized intracellularly. The phosphorylation is dependent upon the viral kinase and occurs preferentially in virus-infected cells. The virustatic activity of ganciclovir is due to the inhibition of viral DNA synthesis by ganciclovir triphosphate. Ganciclovir triphosphate is incorporated into the DNA strand replacing many of the adenosine bases. This results in the prevention of DNA synthesis, as phosphodiester bridges can longer to be built, destabilizing the strand. Ganciclovir inhibits viral DNA polymerases more effectively than it does cellular polymerase, and chain elongation resumes when ganciclovir is removed. [2]

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After oral administration, intestinal and hepatic esterases hydrolyze both diastereomers to ganciclovir, which inhibits replication of the human cytomegalovirus. Valganciclovir is well absorbed from the gastrointestinal tract and the absolute bioavailability from valganciclovir tablets (following administration with food) is approximately 60%.[2]

[1] Sugawara M, et al. J Pharm Sci, 2000, 89(6), 781-789. [2] Cvetkovi? RS, et al. Drugs, 2005, 65(6), 859-878.

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